

L Number	Hits	Search Text	DB	Time stamp
1	1	5699501.pn. and (link\$3 path\$5 session\$5 channel\$6 line\$5)	USPAT	2003/04/03 10:11
10	0	(join\$6 with member\$5 with group\$5 with register\$6) and (709/\$ 707/\$).ccls.	USPAT	2003/04/03 10:57
11	40	((join\$6 member\$5) with group\$5 with register\$6) and (709/\$ 707/\$).ccls.	USPAT	2003/04/03 11:14
13	10318	(member\$5 with inform\$9 register\$6) and (709/\$ 707/\$).ccls.	USPAT	2003/04/03 11:20
14	46	(member\$5 with inform\$9 with register\$6) and (709/\$ 707/\$).ccls.	USPAT	2003/04/03 11:21
-	2	((("5920701") or ("5699501"))).PN.	USPAT	2003/04/02 11:18
-	1	("5699501").PN.	USPAT	2003/04/02 13:32
-	4	5699501.uref.	USPAT	2003/04/02 10:41
-	1	5699501.pn. and ((select\$5 vot\$6 elect\$6) with leader\$6)	USPAT	2003/04/02 11:44
-	1	5699501.pn. and (priorit\$6)	USPAT	2003/04/02 11:44
-	1351	(select\$5 vot\$6 elect\$6) with group\$5 with (master\$6 leader\$6)	USPAT	2003/04/02 11:48
-	138	((select\$5 vot\$6 elect\$6) with group\$5 with (master\$6 leader\$6)) and (709/\$ 370/\$).ccls.	USPAT	2003/04/02 11:56
-	174	((select\$5 vot\$6 elect\$6) with group\$5 with (master\$6 leader\$6)) and (709/\$ 714/\$ 370/\$).ccls.	USPAT	2003/04/02 11:49
-	59	((select\$5 vot\$6 elect\$6) with group\$5 with (master\$6 leader\$6)) and (709/\$ 714/\$ 370/\$).ccls. and priority	USPAT	2003/04/02 11:50
-	1	((select\$5 vot\$6 elect\$6) with group\$5 with (master\$6 leader\$6)) and 5944778.pn.	USPAT	2003/04/02 11:56
-	1	(select\$6 vot\$6 elect\$6) and master\$5 and 5944778.pn.	USPAT	2003/04/02 11:57
-	0	(vot\$5 near priority) with (leader\$5 master\$6)	USPAT	2003/04/02 13:33
-	3	(vot\$5 near priority)	USPAT	2003/04/02 13:43
-	7	((("5898686") or ("5355371") or ("5541927") or ("5553083") or ("5675802") or ("5727002") or ("6006254"))).PN.	USPAT	2003/04/02 14:03
-	0	(ip with multicast\$6) with (select\$5 elect\$6 poll\$5 vot\$6) with (master\$5 leader\$6)	USPAT	2003/04/02 14:05
-	1	("5938732").PN.	USPAT	2003/04/02 17:07
-	2	("5938732").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/04/02 14:22
-	0	((("5938732").PN.) and (priorit\$6)	USPAT	2003/04/02 14:08
-	1	((("5938732").PN.) and (priorit\$6 leader\$5)	USPAT	2003/04/02 14:09
-	1	((("5938732").PN.) and ((select\$6 elect\$6 vot\$6 poll\$5) same leader\$5)	USPAT	2003/04/02 14:23
-	16	5938732.uref.	USPAT	2003/04/02 14:11
-	6	5938732.uref. and (leader\$5 master\$6)	USPAT	2003/04/02 14:19
-	8	5938732.uref. and (leader\$5 rank\$6 priorit\$6 master\$6)	USPAT	2003/04/02 14:20
-	17	lim near swee near boon	USPAT	2003/04/02 14:22
-	1	(lim near swee near boon) and ((select\$6 elect\$6 vot\$6 poll\$5) same (master\$5 leader\$5))	USPAT	2003/04/02 14:29
-	1	5699501.pn. and (server\$5)	USPAT	2003/04/02 15:25
-	1199	frame\$3 near9 server\$5	USPAT	2003/04/02 14:56
-	77	(processing adj node\$5) with server\$5	USPAT	2003/04/02 14:56
-	1	5699501.pn. and (node\$6 same service\$5)	USPAT	2003/04/02 14:57
-	1	5699501.pn. and (server\$5 with (processing near node\$5))	USPAT	2003/04/02 15:34
-	8219	server\$5 with (service\$5 and network\$5)	USPAT	2003/04/02 15:50
-	7866	priorit\$7 with (improv\$5 allow\$5 fast\$5)	USPAT	2003/04/02 16:36
-	876	(priorit\$7 with (improv\$5 allow\$5 fast\$5)) and 709/\$.ccls.	USPAT	2003/04/02 16:30
-	106	priorit\$7 with (allow\$5) with process\$6 with high	USPAT	2003/04/02 16:38

-	24	(priorit\$7 with (allow\$5) with process\$6 with high) and 709/\$.ccls.	USPAT	2003/04/02 16:41
-	9	(priorit\$7 with (allow\$5) with process\$6 with high) and (reduc\$6 with load\$6)	USPAT	2003/04/02 16:43
-	1	priority with (reduc\$6 with load\$6 with balance\$5)	USPAT	2003/04/02 16:50
-	1	5699501.pn. and (inactiv\$6 leav\$6)	USPAT	2003/04/02 16:50
-	1	5699501.pn. and (inactiv\$6 period\$6 beat\$6 time\$5 heartbeat\$6 leav\$6)	USPAT	2003/04/02 17:29
-	1	(("5938732").PN.) and (heartbeat\$6 beat\$5 period\$5)	USPAT	2003/04/02 17:11
-	1	5938732.pn. and server\$5	USPAT	2003/04/02 17:23
-	0	5938732.pn. and (server\$5 with leader\$6)	USPAT	2003/04/02 17:12
-	0	5938732.pn. and (priorit\$6)	USPAT	2003/04/02 17:13
-	1	5938732.pn. and ((heartbeat\$5 (control near message\$5)) same leader\$5)	USPAT	2003/04/02 17:14
-	1	5938732.pn. and heartbeat\$5	USPAT	2003/04/02 17:23
-	0	5699501.pn. and (ip)	USPAT	2003/04/02 17:32
-	91	(heartbeat\$5) with (reliab\$6)	USPAT	2003/04/02 17:36
-	1	((heartbeat\$5) with (reliab\$6)) and 709/\$.ccls.	USPAT	2003/04/02 17:33
-	4	(heartbeat\$5) with period\$6 with monitor\$6 with fail\$6	USPAT	2003/04/02 18:14
-	0	("5938732" "5699501").pn. and (register\$6)	USPAT	2003/04/02 18:14
-	3146	join\$6 with register\$6	USPAT	2003/04/02 18:17
-	106	(join\$6 with register\$6) and 709/\$.ccls.	USPAT	2003/04/03 10:51

Leader Election

Leader election is a fundamental problem in the area of distributed computing. We have designed protocols for this problem by combining techniques from several existing protocols in a modular fashion. Each of these protocols is structured as a sequence of phases. The phases were designed independently and then composed using sequential composition. There are several problems in distributed computing that have been shown to be equivalent to leader election in terms of complexity. Our solutions lead to improvements in the complexity of these problems as well.

- Leader Election in the Presence of Link Failures, IEEE Transactions on Parallel and Distributed Computing, 7(3), March 1996. A preliminary version appeared in the ACM Symposium on Principles of Distributed Computing, August 1994.
- Leader Election in Complete Networks, SIAM Journal on Computing, 26(3), June 1997. A preliminary version appeared in the ACM Symposium on Principles of Distributed Computing August 1992.
- Leader Election Using Sense of Direction, Distributed Computing, 10(3), 1997. Some result appeared in the International Conference on Parallel and Distributed Computing Systems, October, 1994.
- Leader Election in Faulty networks with Sense of Direction, IEEE Transactions on Reliability 46(1), 1997 (with Yi Pan).
- Selection on k-dimensional Meshes with Multiple Broadcasting, Computer Journal, 39(2), 19 (with Yi Pan and Mounir Hamdi).
- Real-time Leader Election, Information Processing Letters, pages 57-61, 49, 1994.
- Efficient Leader Election in Complete Networks IEEE International Conference on Distributed Computing Systems, May 1991.

Spanning Trees

Spanning trees are typically used to provide multicast communication among a set of nodes. We have designed an algorithm for dynamic reconfiguration of multicast spanning trees in the presence of node failures, link failures and addition or deletion of group members. We have also designed efficient algorithms for construction of minimum cost spanning trees.

- A Highly Asynchronous Minimum Spanning Tree Protocol, Distributed Computing, 8(2), 199 (with Arthur Bernstein).
- Reconfiguration of Spanning Tree algorithms in Networks in the Presence of Node Failures, IEEE International Conference on Distributed Computing Systems, June 1993. (with K. Ravindran and P. Gupta)

Miscellaneous

- G. Singh and K. Vellanki, A Distributed Protocol for Constructing Multicast Trees, International Conference on Principles of Distributed Systems, December 1998 (to appear).
- G. Singh and C. Chou, Adaptive Breadth-First Search Protocols, International Phoenix Conference on Computers and Communication, April 1994.
- G. Singh and S. Srinivasan Multipath-routing in High-Performance Networks, International Conference on High Performance Computing, December 1995.
- G. Singh and M. Bommarreddy, Replica Placement in a Dynamic Network, IEEE International Conference on Distributed Computing Systems, June 1994.

- G. Singh and A. Bernstein, On the Relative Execution Times of Distributed Protocols, International Journal of Parallel Programming, 20(3), 1991, An earlier version appeared in the IEEE International Conference on Distributed Computing Systems, June 1990.
- G. Singh, S.A. Smolka and I.V. Ramakrishnan. Distributed Algorithms for Tree Pattern Matching, Second International Workshop on Distributed Algorithms, Amsterdam, Lecture Notes in Computer Science, Vol. 312, Springer Verlag, pp 92-107, July 1987.

US-PAT-NO: 6178444

DOCUMENT-IDENTIFIER: US 6178444 B1

TITLE: System and method that prevent messages transferred
among networked data processing systems from becoming out
of sequence

----- KWIC -----

5938732

Singh, G., "**Leader** Election in the Presence of Link Failures," IEEE Trans. on Parallel & Distributed Systems, vol. 7, No. 3, pp. 231-236, Mar. 1996.

Kim, T., et al., "A **Leader** Election Algorithm in a Distributed Computing System," Proc. of the 5th IEEE Comp. Society Workshop on the Future Trends of Distributed Computing Systems, IEEE, pp. 481-485, Aug. 1995.

Abu-Amara, H., et al., "On the Complexities of **Leader** Election Algorithms," Proc. of ICCI '93, IEEE, pp. 202-206, May 1993.

Chow, Y., et al., "An Optimal Distributed Algorithm for Failure Driven **Leader** Election in Bounded-Degree Networks," Proc. of the 3rd Workshop on the Future Trends of Distributed Computing Systems, IEEE, pp. 136-141, Apr. 1992.

Singh, S., et al., "Electing **Leader** Based Upon Performance: The Delay Model," Proc. of the 11th Int'l. Conf. on Distributed Computing Systems, IEEE, pp. 464-471, May 1991.

Singh, S., "Efficient Distributed Algorithms for **Leader** Election in Complete Networks," Proc. of the 11th Int'l. Conf. on Distributed Computing Systems, IEEE, pp. 472-479, May 1991.

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

 Print FormatYour search matched **17** of **932163** documents.A maximum of **17** results are displayed, **15** to a page, sorted by **Relevance** in **descending** order.

You may refine your search by editing the current search expression or entering a new one in the text box.

Then click **Search Again**.**Results:**Journal or Magazine = **JNL** Conference = **CNF** Standard = **STD****1 Efficient distributed algorithms for leader election in complete networks***Singh, G.;*

Distributed Computing Systems, 1991., 11th International Conference on , 20-24 May 1991

Page(s): 472 -479

[\[Abstract\]](#) [\[PDF Full-Text \(636 KB\)\]](#) **IEEE CNF****2 Electing leaders based upon performance: the delay model***Singh, S.; Kurose, J.;*

Distributed Computing Systems, 1991., 11th International Conference on , 20-24 May 1991

Page(s): 464 -471

[\[Abstract\]](#) [\[PDF Full-Text \(572 KB\)\]](#) **IEEE CNF****3 An optimal distributed algorithm for failure-driven leader election in bounded-degree networks***Chow, Y.-C.; Luo, K.C.K.; Newman-Wolfe, R.;*

Distributed Computing Systems, 1992., Proceedings of the Third Workshop on Future Trends of , 14-16 Apr 1992

Page(s): 136 -141

[\[Abstract\]](#) [\[PDF Full-Text \(444 KB\)\]](#) **IEEE CNF****4 On the complexities of leader election algorithms***Abu-Amara, H.; Kanevsky, A.;*

Computing and Information, 1993. Proceedings ICCI '93., Fifth International Conference on , 27-29 May 1993
Page(s): 202 -206

[\[Abstract\]](#) [\[PDF Full-Text \(420 KB\)\]](#) **IEEE CNF**

5 Optimal fault-tolerant leader election in chordal rings

Mans, B.; Santoro, N.;

Fault-Tolerant Computing, 1994. FTCS-24. Digest of Papers., Twenty-Fourth International Symposium on , 15-17 Jun 1994
Page(s): 392 -401

[\[Abstract\]](#) [\[PDF Full-Text \(700 KB\)\]](#) **IEEE CNF**

6 A leader election algorithm in a distributed computing system

Tai Woo Kim; Eui Hong Kim; Joong Kwon Kim; Tai Yun Kim;

Distributed Computing Systems, 1995., Proceedings of the Fifth IEEE Computer Society Workshop on Future Trends of , 28-30 Aug 1995
Page(s): 481 -485

[\[Abstract\]](#) [\[PDF Full-Text \(348 KB\)\]](#) **IEEE CNF**

7 Designing masking fault-tolerance via nonmasking fault-tolerance

Arora, A.; Kulkarni, S.S.;

Reliable Distributed Systems, 1995. Proceedings., 14th Symposium on , 13-15 Sep 1995
Page(s): 174 -185

[\[Abstract\]](#) [\[PDF Full-Text \(1232 KB\)\]](#) **IEEE CNF**

8 A self-stabilizing ranking algorithm for tree structured networks

Bourgon, B.; Datta, A.K.; Natarajan, V.;

Computers and Communications, 1995. Conference Proceedings of the 1995 IEEE Fourteenth Annual International Phoenix Conference on , 28-31 Mar 1995
Page(s): 23 -28

[\[Abstract\]](#) [\[PDF Full-Text \(412 KB\)\]](#) **IEEE CNF**

9 The wave expansion approach to broadcasting in multihop radio networks

Chlamtac, I.;

Communications, IEEE Transactions on , Volume: 39 Issue: 3 , Mar 1991
Page(s): 426 -433

[\[Abstract\]](#) [\[PDF Full-Text \(708 KB\)\]](#) **IEEE JNL**

10 Dynamic synchrony among atomic actions

Roman, G.-C.; Plun, Y.J.; Wilcox, C.D.;

Parallel and Distributed Systems, IEEE Transactions on , Volume: 4 Issue: 6 , Jun 1993
Page(s): 677 -685

[\[Abstract\]](#) [\[PDF Full-Text \(840 KB\)\]](#) **IEEE JNL**

11 Distributed reset

Arora, A.; Gouda, M.;

Computers, IEEE Transactions on , Volume: 43 Issue: 9 , Sep 1994
Page(s): 1026 -1038

[\[Abstract\]](#) [\[PDF Full-Text \(1068 KB\)\]](#) **IEEE JNL**

12 New model and algorithms for leader election in synchronous fiber-optic networks

Abu-Amara, H.; Gummadi, V.;

Parallel and Distributed Systems, IEEE Transactions on , Volume: 5 Issue: 8 , Aug 1994
Page(s): 891 -896

[\[Abstract\]](#) [\[PDF Full-Text \(612 KB\)\]](#) **IEEE JNL**

13 Election in asynchronous complete networks with intermittent link failures

Abu-Amara, H.; Lokre, J.;

Computers, IEEE Transactions on , Volume: 43 Issue: 7 , Jul 1994
Page(s): 778 -788

[\[Abstract\]](#) [\[PDF Full-Text \(1060 KB\)\]](#) **IEEE JNL**

14 New models and algorithms for future networks

Cidon, I.; Gopal, I.; Kutten, S.;

Information Theory, IEEE Transactions on , Volume: 41 Issue: 3 , May 1995
Page(s): 769 -780

[\[Abstract\]](#) [\[PDF Full-Text \(1228 KB\)\]](#) **IEEE JNL**

15 Analyzing expected time by scheduler-luck games

Dolev, S.; Israeli, A.; Moran, S.;

Software Engineering, IEEE Transactions on , Volume: 21 Issue: 5 ,
May 1995

Page(s): 429 -439

[\[Abstract\]](#) [\[PDF Full-Text \(1068 KB\)\]](#) **IEEE JNL**

1 2 [\[Next\]](#)

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#)
[Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#)
[No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2002 IEEE — All rights reserved